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In the Specification:

Please amend paragraph [0005] on page 3 as follows:

[0005] However, because the makers of such mask blanks 20 often supply numerous companies, they are often relatively slow to change with the progression of one or two companies until there is demand from a majority of companies supplied. Often, it may be more profitable to implement new mask blanks only when the majority of companies are ready for them. Hence, if one company is ahead of or leads its competitors and is ready for the next generation mask blanks sooner, the mask blank supplier may not keep up. Or if the mask blank supplier does strive to keep up with a leading mask fabricator, this may be a disadvantage to the mask leading fabricator because the next generation mask blanks will then be readily available to all of its competitors. Thus, a need exists for a way to continue using a current generation of mask blanks provided by a mask blank supplier while still being able to push into the next generation of fabrication processes.

Please amend paragraph [0006] on page 3 as follows:

[0006] In the case where a mask blank supplier cannot affordably mass produce next generation mask blanks soon enough for a leading mask fabricator, which is ready for them, the slower pace of competing fabricators may slow the progression of the leading mask fabricator. This may be especially true if the leading mask fabricator is dependent upon the mask blank supplier for providing its mask blanks. For example, most of the industry may be using 193 nm light for lithography and a leading mask fabricator company may be ready to use 157 nm light to provide smaller geometries. In such case, the leading mask fabricator company will not want to wait for its competitors to catch up. Thus, it would be highly desirable for the leading mask

fabricator to have the ability to use readily available mask blanks designed for the current generation processes in its next generation fabrication processes.

Please amend paragraph [0008] on page 4 as follows:

[0008] The method may further include the removal of portions of the transparent layer to form a recess with a first recess depth at the clear areas. The portions of the transparent layer may be removed by reactive ion etching using an etch chemistry including SF6 and/or CF4, for example. [[Part]] In another embodiment, part of the phase-shifting layer with a second thickness may remain at the clear areas, wherein the second thickness is less than the first thickness. The second predetermined phase shift may be approximately equal to or greater than the first predetermined phase shift. Typically, the second wavelength will be smaller than the first wavelength. The first predetermined phase shift may be about 180 degrees, and the second predetermined phase shift may be equal to or greater than about 180 degrees, for example. The initial thickness of the phase-shifting layer may be adapted to provide a first optical transmission for light of the first wavelength, and the first thickness of the phase-shifting layer at the dark areas may be adapted to provide a second optical transmission. The second optical transmission is preferably less than or equal to about 6%, for example. Yet, as another example, the second optical transmission may be between about 5% and about 15%. The initial thickness of the attenuation and phase-shifting layer may be reduced by reactive ion etching using an etch chemistry including at least one of SF6 and CF4, for example.

Please amend paragraph [0018] on page 7 as follows:

[0018] FIG. 1 shows a side cross-section view for part of a conventional mask blank 20. The mask blank 20 may be pre-fabricated by a mask blank supplier ~~company~~ and supplied to a mask fabricator for use in making an attenuated phase-shifting mask, for example. The mask blank 20 has an attenuating and phase-shifting layer 24 (referred to as the "attPS layer" hereafter) formed over a transparent layer 22. The transparent layer 22 is typically made from clear quartz or glass, for example. However, the transparent layer 22 may be made from other materials, as will be known to or realized by one of ordinary skill in the art.

Please amend paragraph [0024] on page 10, continuing on page 11, as follows:

[0024] Next, as shown in FIG. 4, select portions of the attPS layer 24 are removed to form a pattern for the clear areas 26 of the mask 130. Also, portions of the transparent layer 22 are removed at the clear areas 26 (see FIG. 4) to a depth D_2. In other words, the thickness of the transparent layer 22 at the clear areas 26 is reduced, and a recess with a depth D_2 is formed at the clear areas 26. Removing portions of the attPS layer 24 and the transparent layer 22 at the clear areas 26 may or may not be performed during or with the same process (e.g., etching). Preferably, the removal of attPS and transparent layer materials at the clear areas 26 is performed using a RIE process with an etch chemistry of SF_6 and/or CF_4, for example. However, one of ordinary skill in the art should realize other processes that may be used for such removal step(s). The following equations may be used to calculate the values of D_1 and D_2 to provide desired values of phase shift and transmittance for a given wavelength (λ_t) of light:

$$\Phi_t = [2(n_t-1)\, D_1/\lambda_t]180° + [2(n_c-1)\, D_2/\lambda_t]180°$$

$$T_t = A_t \exp(-4\pi D_1\, k_t/\lambda_t)$$

$D_1 = -\lambda_t \ln[T_o/A_t] / 4\pi k_t$

$D_2 = \lambda_t [1 - 2(n_t-1) D_1 / \lambda_t] / [2(n_c-1)]$

where:

Φ_t = phase shift of light through line-A relative to light through line-B, based on using D_1 for dark area, D_2 for clear area, and λ_t, where $\lambda_t < \lambda_o$

n_t = refractive index of attPS layer material (dark area) at λ_t

n_c = refractive index of transparent layer material (clear area) at λ_t

D_1 = reduced attPS layer thickness on mask blank at dark area

D_2 = depth of recess at clear area

λ_t = wavelength of light used

T_t = transmittance through line-A based on using ~~D_1, D_2, and λ_t~~ D_1 and λ_t

A_t = constant for attPS layer material at λ_t

k_t = extinction coefficient for attPS layer material at λ_t

Please amend paragraph [0028] on page 12, continuing on page 13, as follows:

[0028] Next, as shown in FIG. 6, portions of the attPS layer 24 are removed in a pattern to form the clear areas 26. In the second embodiment, part of the attPS layer 24 having a thickness D_3 remains over the transparent layer 22 at the clear areas 26 (see FIG. 6). Preferably, the removal of attPS layer material at the clear areas 26 is performed using a RIE process with an etch chemistry of SF_6 and/or CF_4, for example. However, one of ordinary skill in the art should realize other processes that may be used for such removal, including (but not necessarily limited to) wet etching, RIE, ion milling, or any combination thereof, for example. The following

equations may be used to calculate the phase shift and transmittance, and/or to determine the values of D_1 and D_3 that provide desired values of phase shift and transmittance, for a given wavelength (λ_t) of light:

$$\Phi_t = [2(n_t-1)(D_1-D_3) / \lambda_t]180°$$

$$T_1 = [[L_1/L_o =]] \; A_t \exp(-4\pi k_t D_1 / \lambda_t)$$

$$T_2 = [[L_2/L_o =]] \; A_t \exp(-4\pi k_t D_3 / \lambda_t)$$

$$T_t = [[L_1/L_2 =]] \; T_1/T_2 = \exp[-4\pi k_t (D_1-D_3) / \lambda_t]$$

where:

Φ_t = phase shift of light through line-A relative to light through line-B, based on using D_1 for dark area, D_3 for clear area, and λ_t, where $\lambda_t < \lambda_o$

n_t = refractive index of attPS layer material at λ_t

D_1 = attPS layer thickness on mask blank at dark area

D_3 = attPS layer thickness on mask blank at clear area

λ_t = wavelength of light used

T_t = transmittance through line-A relative to [[light]] the transmittance through line-B based on using D_1, D_3, and λ_t

T_1 = transmittance through line-A based on using D_1 and λ_t

T_2 = transmittance through line-B based on using D_3 and λ_t

A_t = constant for attPS layer material at λ_t

k_t = extinction coefficient for attPS layer material at λ_t.

Please amend paragraph [0031] on page 14, continuing on page 15, as follows:

[0031] Embodiments of the present invention may provide numerous advantages, such as:

- Ability to use current generation mask blanks for next generation processes to gain an advantage over the competition that is still using current generation processes;
- Less dependence on the progress of mask blank ~~makers/~~suppliers for the progress of a mask fabricator;
- Ability to use an inventory of past generation mask blanks for next generation processing needs;
- Ability to tune and adjust the phase shift and/or transmittance of an attenuated phase-shifting mask built from a pre-fabricated mask blank;
- Flexibility in the use of different wavelengths of light; and/or
- Ability to test and quickly implement different wavelengths of light using existing pre-fabricated mask blanks.